

REMARKS

Claims 1-13, 22, 23 and 28-40 are pending in the present application. Claims 1 and 22 have been amended herein. Claims 14-21 and 24-27 were previously canceled. No new matter has been added. Applicants respectfully request reconsideration of the claims in view of the following remarks.

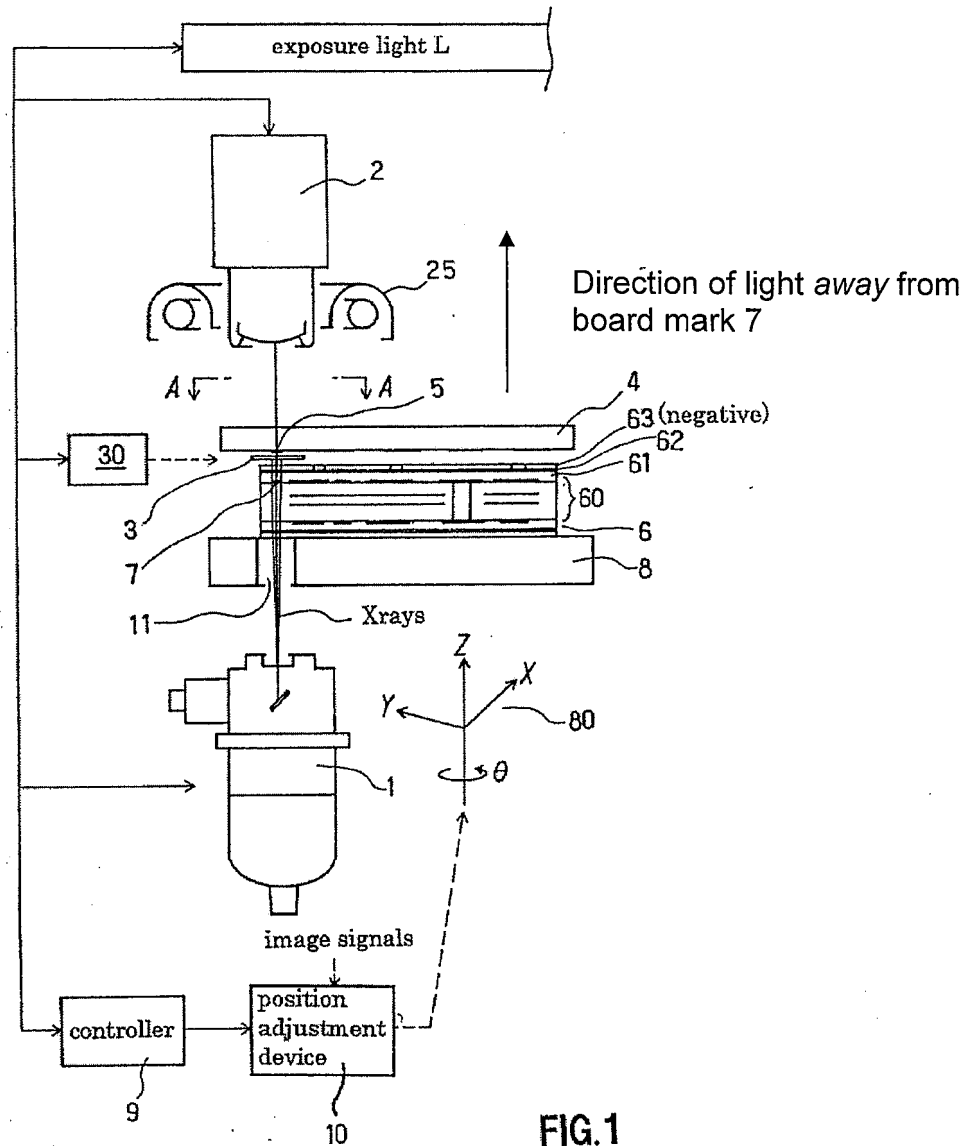
Claims 1, 4-6, 22, 23, 28, 29 and 40 have been rejected under 35 U.S.C. § 103(a) as being unpatentable by Chen (U.S. Patent Publication No. 2002/0170880, hereinafter "Chen"), in view of Sangu, et al. (U.S. Patent Publication No. 2001/0026638, hereinafter "Sangu"). Claims 2, 3, 7-13 and 30-39 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Chen, in view of Sangu, as applied to claims 1, 4-6, 22, 23, 28, 29 and 40 above, and further in view of Farrar et al. (U.S. Patent Publication No. 2002/0076896, hereinafter "Farrar"). Applicants respectfully traverse these rejections.

Claim 1 has been amended to recite:

a positioning system comprising a plurality of infrared light sources and a plurality of infrared cameras, wherein each mutually assigned pair of alignment marks is illuminated by an infrared light source and is monitored by a corresponding infrared camera, and wherein the stamp is positioned on the wafer by means of the positioning system and is pressed into the patterning layer.

Chen and Sangu do not teach or suggest these limitations. According to the Final Office Action, "Chen does not clearly teach the plurality of infrared light sources and a plurality of infrared cameras." (Final Office Action, page 2). Sangu, however, teaches an X-ray source 1 that passes X-rays through board mark 7, onto projection screen 3 which can be a fluorescent screen, or another type of screen that can convert the X-rays to ultraviolet or infrared rays. (Sangu, Figure 1; paragraph [0036].) Clearly Sangu teaches

away from each mutually assigned pair of alignment marks illuminated by an infrared light as required by claim 1, since any possible conversion of X-rays to infrared rays is directed away from Sangu's board mark 7 as is clearly seen in Sangu Figure 1 reproduced hereinbelow.



Sangu further teaches an alignment system where “the alignment mark on the core board is invisible because the layer is covered by copper foil before the pattern is formed.” (Sangu, paragraph [0005].) Sangu, in fact, teaches that “the mark on the board can be

imaged on the projection screen by Xray radiation even if it is covered by copper foil or the like and invisible.” (Sangu, paragraph [0009]; Emphasis added). Since the object to be illuminated is invisible, Sangu necessarily teaches away from using a light source of any kind to illuminate board mark 7. Applicants, therefore, respectfully submit that claim 1, as amended, is patentable over the prior art of record.

Claims 2-13 and 32-39 depend from claim 1 directly or indirectly and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

Claim 22 has been amended to recite:

the infrared position system includes a plurality of infrared light sources and a plurality of infrared cameras, wherein each alignment mark on the stamp is aligned with a corresponding alignment mark on the semiconductor wafer using one of the infrared light sources to illuminate the corresponding alignment mark and one of the infrared cameras to monitor the corresponding alignment marks.

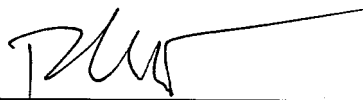
As has been discussed with respect to claim 1 hereinabove, Chen does not teach a plurality of infrared light sources and a plurality of infrared cameras, and Sangu teaches away from using an infrared light source to illuminate a corresponding mark. Applicants, therefore, respectfully submit that claim 1, as amended, is patentable over the prior art of record.

Claims 23, 28-31, and 40 depend from claim 22 directly or indirectly and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding new limitations.

In view of the above, Applicants respectfully submit that the application is in condition for allowance and request that the Examiner pass the case to issuance. If the Examiner should have any questions, Applicants request that the Examiner please contact Applicants' agent at the address below. In the event that the enclosed fees are insufficient, please charge any additional fees required to keep this application pending, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,

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Date


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